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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,061	09/19/2001	Soon-kyo Hong	1349.1028	8477
21171	7590	01/20/2004	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			KIM, PAUL D	
			ART UNIT	PAPER NUMBER
			3729	5

DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/955,061

Applicant(s)

HONG ET AL.

Examiner

Paul D Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 5-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 14-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is a response to the restriction requirement filed on 10/8/2003.

Response to the Restriction Requirement

2. Applicant's election with traverse of Group I, claims 1-4 and 14-16, in Paper No. 4 is acknowledged. The traversal is on the ground(s) that all the claims as filed would not require additional searching, not place any undue burden on the patent office. This is not found persuasive because these inventions (Group I and II) are distinct for the reasons given last office action on Paper No. 3 and have acquired a separate status in the art as because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper. The apparatus as claimed can be used to practice another and materially different process such as without measuring simultaneously an initial vibration while rotating the disc assembly.

The requirement is still deemed proper and is therefore **made FINAL**.

3. Claims 5-13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 5.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: --A DISC BALANCING DEVICE--.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Scuricini (US PAT. 4,096,988).

Scuricini teaches an apparatus for the dynamic balancing of rotating bodies comprising a disc assembly (14) having a driving source (1) as shown in Figs. 2 and 3; a displacement measurement unit (4, 15 as shown in Fig. 3) for measuring vibration in the rotation of the disc assembly; a phase angle measurement unit (18, signal generator, as shown in Fig. 3) measuring an angular position of the rotating body; an operation/control unit (8) collecting data from the displacement measurement unit and phase angle measurement unit; and a laser cutter (12) for removing a certain amount of the material from the mass eccentricity analyzed by the operation/control unit (see also col. 5, line 39 to col. 6, line 35). Scuricini teaches that the vibration is caused by the mass eccentricity and removed the certain amount of the material from the mass eccentricity at the positions specifically disclosed in lines 39-54 of col. 5.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scuricini in view of Asada (US PAT. 5,762,663).

Scuricini teaches all of the limitations as set forth about, but does not teach a dust inhaler for inhaling dust generating when the laser cutter cuts the portion of the disc. Asada teaches a wet dust collecting apparatus including a suction inlet passage (3) for sucking high temperature laser and plasma dust into a chamber as shown in Fig. 1 in order to provide a stable work environment for machining precision (see also col. 3, lines 6-13). Therefore, it would also have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the disc balancing assembly of Scuricini by providing a suction inlet passage as taught by Asada in order to provide a stable work environment for machining precision.

As per claim 3 Asada also teaches that the dust collecting apparatus is capable of unmanned operation without any risk of causing a fire disclosed in lines 5-9 of col. 2.

8. Claims 4, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scuricini in view of Duston et al. (US PAT. 3,538,298).

Scuricini teaches all of the limitations as set forth about, but does not teach a photo sensor as the phase angle measurement unit by irradiating light to the reference point and receiving a reflection light from the disc assembly. Duston et al. teach a process of disc balancing rotating objects including a stroboscopic light device to illuminate one or more sequentially numbered bands circumscribing one or both ends of

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the rotating objects and indicating a location (reference point) of the eccentric mass and removing the eccentric mass by laser to provide proper balance for rotary motion as shown in Fig. 2 (see also. Col. 1, lines 25-54). Therefore, it would also have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the phase angle measurement unit of Scuricini by stroboscopic light device as taught by Duston et al. in order to indicate the eccentric mass and remove to provide proper balance for rotary motion.

As per claims 15 and 16 Duston et al. teach that more than one rotating objects are balanced by removing the eccentric mass by laser to provide proper balance for rotary motion as shown in Fig. 2.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kubo et al. (US PAT. 5,164,791) and Myer (US PAT. 3,663,795) are cited to further show the state of the art with respect to method of balancing assembly.

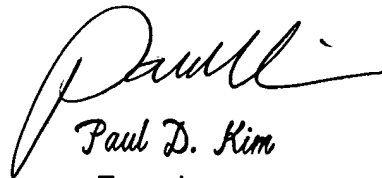
Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul D Kim whose telephone number is 703-308-8356. The examiner can normally be reached on Tuesday-Friday between 8:00 AM to 5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5648.

A handwritten signature in black ink, appearing to read "Paul D. Kim". The signature is stylized with a large, sweeping initial "P".

Paul D. Kim

Examiner
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